



Environmental Attitudes and Intentions: The Effects of an Environmentally-focused Study Abroad Program

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Overview

- Purpose
- The Study Abroad Program
- Teaching Methods & Observations
- Program Examination
- Preliminary Results
- Conclusions
- Implications & Recommendations



Existing Research

- Motivations and intent to study abroad
(Doyle et al., 2010; Goldstein & Kim, 2006)
- Value of study abroad
 - Increasing inter-cultural competence & sensitivity
(Anderson et al., 2006)
 - Developing global citizens
(Tarrant et al., 2011)

Little is known about how natural resource
based study abroad programs affect
participants

Purpose



- Share our experiences in developing and running an environmentally-focused study abroad program
- Examine the immediate and potential lasting effects of participation in an environmentally-focused study abroad program on individual environmental attitudes, intentions, and behaviors

The Study Abroad Program

North Queensland, Australia

Education on the move

- Varied learning environments
 - Urban
 - Outback
 - In-land rural/agricultural
 - Coastal rainforests
 - Open ocean



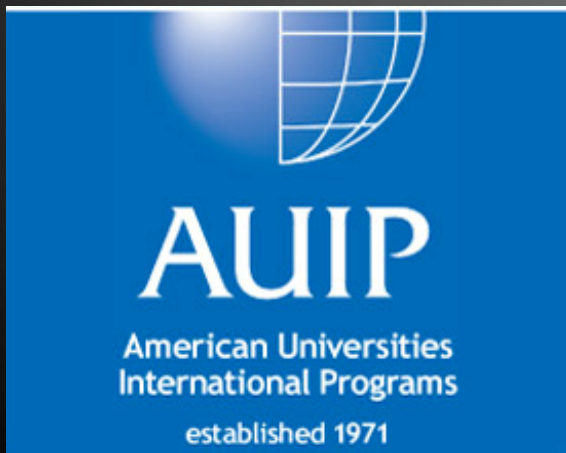
The Study Abroad Program

- Length: 3.5 weeks
- Typically “backpacker” style accommodations
 - Multiple students to a room
 - Shared restroom facilities
 - Shared kitchenette
 - Common areas for all guests



The Study Abroad Program

- Itinerary, content & logistics developed with American Universities International Programs (AUIP)
- Partner universities develop course syllabi
- Experiential field-based learning & hands-on activity



NC STATE UNIVERSITY

The Study Abroad Program

- Two course program with concurrent objectives:
 - Human Dimensions of Natural Resources in Australia (PRT 449, 3 credit hours)
 - Sustaining Natural Environments in Australia (PRT 450, 3 credit hours)



The Study Abroad Program

- Group size 15-29 annually
- 112 participants over 6 years
- Open to all academic majors
 - Diverse majors in 2011
- No prerequisites
- Fulfills NCSU requirements
 - Global Knowledge
 - Interdisciplinary Perspectives



The Study Abroad Program

Format & Teaching Methods

- Field-based learning
 - Field Lectures
 - Hands-on activities
 - Service projects & research projects
- Group discussions
- Guided reflection
- Program coursework (i.e., written essays, quizzes, & exams are based on 5 thematic course modules)



Faculty Observations

- Coursework
 - Relevant
 - Contributes to predefined learning objectives
 - Facilitates student interest
 - Stimulates engagement
- Program format
 - Allows for more personal communication



Program Examination

Study Format

- An exploratory mixed-method study of program participants
- Two-part examination
 - Quantitative (n=27)
 - 26 from NCSU, 1 from Virginia Tech
 - Qualitative
 - 17 semi-structured interviews



Program Examination

Quantitative Data Collection

- Pre/post questionnaires
 - 3 primary measurement scales
 - **New Ecological Paradigm Scale**
(Dunlap, Van Liere, Mertig, & Jones, 2000)
 - **Adapted Environmental Citizenship Scale**
(Stern, Dietz, Abel, Guagnano, & Kalof, 1999)
 - Titled “Environmental Intentions” (EI)
 - **Adapted Ecologically Conscious Consumer Behavior Scale** (Roberts & Bacon, 1977)
 - Titled “Consumer Intentions” (CI)

Quantitative Findings

Gender	Frequency	Percentage
Male	11	40.74
Female	16	59.26



Variable	Mean	SD	Min.	Max.
Age (in years) at end of program	20.68	.90	19.04	23.21

Quantitative Findings

New Ecological Paradigm Scale^a

Variable	Mean	SD
NEP Pre-test (n=26) ^b	4.74	.58
NEP Post-test (n=27)	5.06	.59

^a Measured on a 7 point Likert-scale from 1=“strongly disagree” to 7=“strongly agree”

^b One student did not respond to the NEP during the pre-test

Environmental Intention Scale^c

Variable	Mean	SD
EI Pre-test (n=27)	3.97	.90
EI Post-test (n=27)	4.56	.88

Consumer Intention Scale^c

Variable	Mean	SD
CI Pre-test (n=27)	5.03	.95
CI Post-test (n=27)	5.69	.94

^c Measured on a 7 point Likert-scale from 1=“not at all likely” to 7=“extremely likely”

Program Examination

Qualitative Data Collection

- Semi-structured interviews
- 17 willing participants
- Collected December 2011 – February 2012
 - Program experience
 - Changes in knowledge, awareness, and environmental attitudes
 - Intent to perform pro-environmental behaviors
 - Actual exhibition of pro-environmental behaviors

Overview of Preliminary Qualitative Findings

- Transformative & positive experience
- Social outcomes
- Changes in knowledge & awareness
- Environmental attitude, intention, & behavior changes
- Response to program structure
- Influence of specific experiences

Studying Abroad in Australia was a Transformative & Positive Experience



Positive Social Outcomes

“I knew no one previously to going on the trip. That’s kinda how I wanted it to be.

I wanted to have an experience where I knew nothing and really grew as a person and got to grow with these other individuals who go on this trip. It really worked out”



Increased Knowledge & Awareness

- Environmental Issues
 - From less aware or unaware before the program
 - To “more aware and knowledgeable now”



Change in General Environmental Attitude After Program

“I definitely have more appreciation for the environment now”

“I think it’s just different you know? It’s better than before”

“I care a lot more now. I want to do more”

“Preserving the natural environment, before I was very for it. Now I’m even more for it”

Intent to Exhibit Pro-Environmental Behaviors

“I definitely still want to try and tell as many people as I can”

“Buy more natural cleaning products”

“Well I’m gonna join this environmental club on campus”

“When I vote, I’ll try and vote for more environmentally friendly [candidates]”

Engaging in More Pro-Environmental Behaviors After Program



Positive Response to Program Structure

Hands-on learning

*“[We] were **seeing, interacting, and listening, and hearing, and smelling, and touching all the things you were learning about in their natural environment...you're really more in touch with everything that you learn**”*



Learning Environment

*“I mean we had a **good balance of work and play** pretty much. I thought Roger and Annette were really good professors. They really tried to work with us rather than like against us”*



Influence of Specific Experiences



Outback camping experience



Snorkeling at the
Great Barrier Reef



The farmstay

Conclusions

- For this group of 27 students, study abroad was a positive growth experience
- Participants enjoyed the program & destination
 - They had fun!
- Overall, participants appear to have come away with new knowledge, increased awareness, and in most cases the desire to put what they learned to good use



Conclusions

- Increases in general environmental attitude measure and both behavioral intention measures
- For this group of students, the experiential field-based learning model for study abroad was valuable to positive attitude, intention, and behavior outcomes



Implications & Recommendations



- Outcome-focused assessment of study abroad programs should inform program development and implementation
- Explore the field-based model to study abroad at your university and compare it's program outcomes with classroom-based programs

Future Research

- Examine mediating variables
 - Academic focus
 - Program length
 - Location
 - Place attachment
- Incorporate on-campus control groups
- Longitudinal data collection

Questions/Comments

